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10/535,059	05/13/2005	Rimmert B Wittebrood	NL 021168	9417

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EXAMINER
RASHID, DAVID

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 May 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination

purposes, unless otherwise noted.

Amendments

1.   This office action is responsive to the preliminary claim amendment received on

5/13/2005.

Priority

2.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) (Application #

02079799.9, filed 5/13/2005), which papers have been placed of record in the file.

Drawings

3.   FIG. 1 and FIG. 2 (box elements 2 through 22) are objected to under 37 CFR 1.83(a)

because they fail to show subject matter as described in the specification. Any structural detail

that is essential for a proper understanding of the disclosed invention should be shown in the

drawing. MPEP § 608.02(d). It is suggested to add text to each box element to describe what

each represents (e.g. box element 2 – "feature extraction").

4.   The following is a quote from 37 CFR 1.84(q):

> Lead lines are those lines between the reference characters and the details referred to. Such lines may be
> straight or curved and should be as short as possible. They must originate in the immediate proximity of
> the reference character and extend to the feature indicated.

5.   FIG. 1 is objected to under 37 CFR 1.84(q) for failing to use a lead line when needed – it

is suggested to connect element 12 to its detail referred to with a lead line in FIG. 1.

6.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet,

even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The

objection to the drawings will not be held in abeyance.

Specification

7.   Applicant is reminded of the proper language and format for an abstract of the disclosure,

as it is noted the Abstract is 46 words in length (< 50 words).

The abstract should be in narrative form and generally limited to a single paragraph on a

separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed

150 words in length since the space provided for the abstract on the computer tape used by the

printer is limited. The form and legal phraseology often used in patent claims, such as "means"

and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist

readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the

title. It should avoid using phrases which can be implied, such as, "The disclosure concerns,"

"The disclosure defined by this invention," "The disclosure describes," etc.

8.   The following guidelines illustrate the preferred layout for the specification of a utility

application. These guidelines are suggested for the applicant's use.

As provided in 37 CFR 1.77(b), the specification of a utility application should include

the following sections in order. Each of the lettered items should appear in upper case, without

underlining or bold type, as a section heading. If no text follows the section heading, the phrase

"Not Applicable" should follow the section heading:

> (a) TITLE OF THE INVENTION.
> (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
> (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
>   DEVELOPMENT.
> (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
> (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A
>   COMPACT DISC.
> (f) BACKGROUND OF THE INVENTION.
>   (1) Field of the Invention.
>   (2) Description of Related Art including information disclosed under 37 CFR 1.97
>   and 1.98.
> (g) BRIEF SUMMARY OF THE INVENTION.
> (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
> (i) DETAILED DESCRIPTION OF THE INVENTION.
> (j) CLAIM OR CLAIMS (commencing on a separate sheet).
> (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
> (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence
>   Listing" is required on paper if the application discloses a nucleotide or amino
>   acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence
>   Listing" is not submitted as an electronic document on compact disc).

Claim Objections

9.   The following is a quotation of 37 CFR 1.75(a):

> The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

10.   **Claims 1 – 12** are objected to under 37 CFR 1.75(a), as failing to conform to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery.

(i) Claim 1, line 5 appears to have a grammatical error – suggest changing to "determining ~~for~~ said group feature characteristics"

(ii) Claim 3, line 2; claim 6, lines 2, 4; claim 12, lines 2, 4 cite "and/or" but it is unclear whether it is and OR or – suggest changing to "~~and/or~~ <u>or</u>" as assumed for examination purposes.

(iii) Claim 4, line 2 cites "for said segmentation is done memory matched" that appears to be a grammatical error – suggest changing to "for said segmentation is ~~done~~ memory matched"

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12.   **Claims 1 – 6 and 9 – 12** are rejected under 35 U.S.C. 102(b) as being anticipated by

Wittebrood et al. (Real-Time Recursive Motion Segmentation of Video Data on a Programmable

Device, IEEE Transactions on Consumer Electronics, 8/2001, Vol. 47, Issue 3, pp 559 – 567).

Regarding **claim 1**, Wittebrood discloses a method for segmenting images into groups of

segments (FIG. 1, p 559), said segments being based on image features ("luminance image" in

Section 2, p 560, right column), with the steps of:

a) determining a group of pixels ("block" in Introduction, right column, a group being (i)

each block or (ii) a conglomeration of blocks) for segmenting,

b) determining for said group feature characteristics ("luminance image" in Section 2, p

560, right column; "transition from white blocks to gray blocks" in Section 3.1.1, p 562, left

column suggesting gray level feature characteristics),

c) determining from neighboring groups segment templates ((i) each block is labeled

"gray" or "white" in FIG.4, thus block "S" and "T" being segment templates in that their pixels

as a whole have been labeled "gray" or "white" or (ii) the groups of blocks as a whole that are

gray or white are segment templates), said segment templates describing constant or continuous

features within said neighboring groups,

d) calculating for said group error values (equation (3) on p 560) by comparing features

of said group ((i) group "C" or (ii) "C" within its respective group) with features of said segment

templates ((i) groups "S" and "T" or (ii) "S" and "T" within their respective groups), and

e) deciding to assign said group to one of said segment templates, or to create a new

segment template based on said error values (FIG. 4 and left column, p 562 shows current block

"C" using blocks "T" and "S" to decide whether it belongs in the "gray" segment template (old

segment template) or "white" segment template (new segment template) based on a reasonable

distance between blocks "T" and "C" to minimize error).

Regarding **claim 2**, Wittebrood discloses the method according to claim 1, with the steps

of determining for said image a plurality of groups and carrying out the steps a)-e) for all groups

of said image (FIG. 1 and FIG. 6 suggests that all groups in the image undergo steps a) – e)).

Regarding **claim 3**, Wittebrood discloses the method according to claim 1, characterized

in that said segment templates are determined spatially ("S" block in FIG. 4) or temporally ("T"

block in FIG. 4).

Regarding **claim 4**, Wittebrood discloses the method according to claim 1, characterized

in that scanning said groups of pixels for said segmentation is memory matched ("[t]he blocks

are scanned from left to right and from top to bottom as shown by the dotted arrows", Section

3.1.1, p 561, right column in relation to FIG. 3).

Regarding **claim 5**, Wittebrood discloses the method according to claim 1, characterized

in that said decision to assign said group to one of said segment templates, or to a newly created

segment template is based on threshold values (it is inherent that there must exist a threshold is

deciding whether the current block "C" in FIG. 4 is converted to a white block or not, as it is not

a random choosing; Section 3.2.1, p 564).

Regarding **claim 6**, Wittebrood discloses the method according to claim 1, characterized

in that said features are based on chrominance, or luminance values, statistical derivatives of

pixels, histograms, co-occurrence matrices or fractal dimensions ("luminance image" in Section

2, p 560, right column).

Regarding **claim 9**, Wittebrood discloses the method characterized in that said segment

templates comprise motion models ("motion model" in Section 3.1.1, p 561, left column).

Regarding **claim 10**, Wittebrood discloses the method according to claim 1, characterized

in that said segment templates comprise image position information ("S" and "T" comprise

image position information as suggested in that "[e]xperiments show that the location of the

temporal prediction as indicated in 4d is a good trade-off" in Section 3.1.1, p 562, left column).

Regarding **claim 11**, claim 1 recites identical features as in claim 11. Thus,

references/arguments equivalent to those presented above for claim 1 are equally applicable to

claim 11. Claim 11 is a means-plus-function claim that is anticipated by the

computer/program/video apparatus of Wittebrood (Introduction, p 559).

Regarding **claim 12**, Wittebrood discloses the use of the method according to claim 1 in

image or video processing ("video" in Introduction, p 559), medical image processing, crop

analysis, video compression, motion estimation, weather analysis, fabrication monitoring, or

intrusion detection.

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

14.   **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wittebrood et al.

(Real-Time Recursive Motion Segmentation of Video Data on a Programmable Device, IEEE

Transactions on Consumer Electronics, 8/2001, Vol. 47, Issue 3, pp 559 – 567) in view of

Gicquel et al (US 2001/0022852 A1).

Regarding **claim 7**, while Wittebrood discloses the method according to claim 1,

Wittebrood does not teach characterized in that said segment templates comprise an average

luminance and chrominance span of said pixels (though Wittebrood suggests some algorithm is

needed to determine whether a block as a whole is "white" or "gray").

Gicquel discloses a method of monitoring the quality of distributed digital images by

detecting false contours that teaches characterized in that each block comprises an average

luminance and chrominance span of pixels (FIG. 2D, element A11; paragraph [0050]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the segment templates of Whittbroad to comprise an average luminance and

chrominance span of pixels as taught by Gicquel "to provide a method that can be used in real

time to monitor the quality of distributed digital images by detecting false contours.", Gicquel,

paragraph [0016] and "to provide a sui generis method of monitoring the quality of distributed

digital images based on statistically analysing the content of usable images of a digital video

sequence with no reference to any source image or to any source image coding block

dimension.", Gicquel, paragraph [0017].

15.   **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wittebrood et al.

(Real-Time Recursive Motion Segmentation of Video Data on a Programmable Device, IEEE

Transactions on Consumer Electronics, 8/2001, Vol. 47, Issue 3, pp 559 – 567) in view of

Beveridge et al. (Segmenting Images Using Localized Histograms and Region Merging,

International Journal of Computer Vision, 1989, pp 311 – 347).

Regarding **claim 8**, while Wittebrood discloses the method according to claim 2,

Whittbroad does not teach characterized in that said segment templates comprise at least on

histogram.

Beveridge discloses segmenting using localized histograms and region merging

(Introduction, p 311; FIG. 3; FIG. 6).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the segment templates of Whittbroad to comprise at least one histogram as taught

by Beveridge because "not only does the region-merging algorithm satisfy the need to

postprocess fragmented areas in the output of the local histogram algorithm, but the local

histogram algorithm satisfies the region-merging algorithm's need for a good starting

segmentation", Beveridge, p 336, left column.

Conclusion

16.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578.

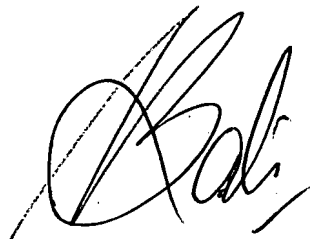The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

David P Rashid
Examiner
Art Unit 2624

/VIKKRAM BALI
PRIMARY EXAMINER